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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,588	11/19/2001	Harri Lahti	4925-148PUS	2676

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EXAMINER

CHANG, RICHARD

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,588

Applicant(s)

LAHTI ET AL.

Examiner

Richard Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/11/2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,8-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4,5 and 12 is/are allowed.
- 6) ☒ Claim(s) 8 and 9 is/are rejected.
- 7) ☐ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendments, filed 04/21/2006, with respect to claims 1-5, 8-10 and 12 have been fully considered; a new ground of rejections of claims 8-9 is made as follow.

Claim 3, 6-7 and 11 had been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,631,896 ("Kawase et al.") US patent 6,678,259 B1 ("Schwengler") in view of and further in view of US patent 5,515,403 ("Sloan et al.").

Regarding claims 8, Kawase et al. teach a hitless path switching apparatus and method in digital communication systems (method for changing parallel signals in a digital data transmission, including over a radio link), in which transmission is parallel in both working and protection paths (in which method the

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data flow to be transmitted is divided into several transmissions) (See Fig. 12) comprising steps of

- there is selected a primary transmission path (51 See Fig. 12, Col 5, lines 48-54),

- there is Header Error Control (HEC) byte in the ATM format, (inherently there is calculated a check sum for the data flow of the length of the processed section, and said check sum is added to the processed section of the data flow in order to form a data frame to be transmitted) (See col. 10, lines 39-48),

- in the transmission paths, there is carried out the transmission of the data frame (S1, see Fig. 3),

- there is Cyclic Redundant Check (CRC) calculation using the HEC byte is for error detection in both path (correctable errors in the received data frames are corrected, and an error sum for each transmission paths is calculated) (See col. 10, lines 39-48),

- there is bit error detection taking place in both a working path and a protection bath to determine the path selection with least error (the error sum of the selected transmission path is compared with the other paths and when necessary, the transmission path selected as the one to be received is changed over to a path with a smaller error sum) (See col. 10, lines 57-64), and

- the information in the data flow of the processed section of the selected transmission path is conducted to the output cable (72) (See Fig. 12, Col 9, lines 40-53).

Kawase et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

“changing parallel signals in a digital data transmission over a radio link and outdoor unit for digital data transmission over a radio link and for selecting the data flow for parallel signals in digital data transmission wherein said outdoor unit comprises at least a transmitter for transmitting the signal to be transmitted and respectively a receiver for receiving said signal”.

Schwengler teaches a similar digital transmission systems with parallel paths (32, 34) using microwave linked Local Multipoint Distribution System (LMDS) (parallel signals in a digital data transmission over a radio link) in which transmission is parallel in both working and protection paths for switching to the best less-error path (see Fig. 1, col. 6, lines 3-23) wherein the indoor and outdoor unit are part of a radio link in a mobile telecommunications system (See Fig. 1, col. 1, lines 11-21), and an arrangement for changing parallel signals in digital data transmission over a radio link comprising a first indoor unit (18) for dividing the data flow, antennas (20,22,24,26) for transmitting and receiving parallel clock signals and a second indoor unit (26) for selecting the data flow comprising

- a first changeover device (90) in the first indoor unit (18) and a second changeover device (90) in the second indoor unit (26) for receiving the propagation assured data, said changeover devices being arranged to change clock signals after waiting for sufficiently accurately cophasal clock signals, and

- a first (20) and second (24) outdoor unit provided with means for processing by an algorithm that models the data to be transmitted and

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respectively checks the data to be received and corrects errors (see Fig. 1, col. 6, lines 11 – col. 7, line 5). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to combine Schwengler with Kawase et al. in order to obtain a hitless path switching apparatus and method in digital communication in which transmission is parallel in both working and protection working and protection paths with indoor and outdoor paths and to take advantage of transmitting both paths over a radio links for switching to the best less-error path.

The motivation to do so would have been to transmit with parallel working and protection paths (32, 34) using microwave linked LMDS as a radio link for switching to the best less-error path as suggested by Schwengler in col. 6, lines 3-23).

Kawase et al. and Schwengler teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

“indicating a change of a clock signal by sufficiently accurately cophasal clock signals”.

Sloan et al. teach a method for smooth clock alignment and switch by indicating a change of a clock signal (active clock) after waiting for a sufficiently accurately cophasal clock signals (phase detection and alignment) (see Fig. 3, Col. 4, lines 29-53).

At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to combine Sloan et al. with Kawase et al. and Schwengler in order to obtain an outdoor unit for digital data transmission over a

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radio link and for selecting the data flow for parallel signals in radio digital data transmission and to take advantage of smoothing clock alignment and switch by indicating a change of a active clock after waiting for a sufficiently accurately cophasal phase detection and alignment.

The motivation to do so would have been to smooth clock alignment and switch by indicating a change of a active clock after waiting for a sufficiently accurately cophasal phase detection and alignment, as suggested by Sloan et al. in Col. 4, lines 29-53.

Regarding claim 9, this claim has limitation that is similar to those of claim 8 and Kawase et al. further teach that the CRC calculation using the HEC byte is performed, and the official notice indicates that for CRC the checksum is calculated by multiplying the data flow by a polynome suitable for modeling, thus it is rejected with the same rationale applied against claim 8 above.

Allowable Subject Matter

6. Claims 1-2, 4-5 and 12 are allowed.

7. Claims 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Reasons for indicating Allowable Subject Matter

8. The following is an examiner's statement of reasons for allowance:

The prior art along or in combination fails to teach or make obvious the following limitations:

“the changeover devices comprise a multiplexer for receiving the clock signals of signal pairs to be received and for selecting the clock signal to be received, data frame decoding blocks for receiving the clock signals and data signals and for forming said signals into control signals and data signals which are decoded from the data frames, elastic buffer and control blocks for receiving the control signals and data signals decoded from the data frames and for receiving the selected clock signal in order to synchronize the data, a data signal multiplexer for receiving data signals from the elastic buffer and control blocks, and a decoding block for receiving a data signal from the data signal multiplexer and for controlling the data signal multiplexer” as recited in the independent claim 10.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ra

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